

ABSTRACT

Arcing can be minimized in a discharge chamber of an excimer or molecular fluorine laser system by utilizing an improved electrode structure. An electrode structure can include  
5 at least one ceramic spoiler positioned near the discharge region of the electrode. An insulating ceramic spoiler can reduce the effective area over which arcing can occur, and can reduce the likelihood of arcing by improving the flow of gas between the electrodes, such as by allowing for design flexibility and reducing the necessary height of a nose portion used to control the discharge area of the electrode. An improved blower design, which can utilize  
10 improved bearings and a dry film lubricant, can help to circulate the laser gas between the electrode structures, such as at a speed of at least 30 m/s in order to operate the laser at repetition rates of 4 kHz or higher.